

## REMARKS

In the present application, claims 1, 4, 7-9, 11-27, and 29 are pending. Claims 1, 4-6, 8, 9, 11-14, and 29 are rejected, and claims 7 and 15-17 are objected to in the present Office Action. Claims 18-27 are allowed. In view of the foregoing amendment and following remarks, Applicant respectfully requests reconsideration of the application.

### Rejection under 35 USC §103

In paragraph 2, page 4 of the final Office Action, the Examiner rejected claims 1, 5-6, and 11-13, under 35 USC §103 as being obvious over Sambonsugi et al. (U.S. Patent No. 6,335,985; hereinafter "*Sambonsugi*") and *Dye* (U.S. Patent No. 6,108,014). Applicant respectfully traverses. Examiner should note that claims 5 and 6 have been previously cancelled.

In Examiner's Response to Amendments/Arguments, the Examiner noted that the terms "source operand" and "destination operand" are not terms of art, and thus their definitions as described in the specification cannot be read into the claims. As such, Applicant has amended claim 1 to incorporate the definition of both "source operand" and "destination operand."

Claim 1 now recites "... the first bounding box surrounding at least one source operand for the first graphics primitive... wherein the at least one source operand is a set of pixel locations that each primitive **reads** in order to complete its drawing operation" This definition of a source operand is found on page 15, lines 3-4 of the specification.

In contrast to a source operand, a destination operand is "a set of pixel locations where each primitive will draw its graphics upon completion" as recited in amended claim 1. Applicant contends that *Dye* does not contemplate a bounding box about sets of pixel locations which are read (i.e., the source

operand), nor the determination of “whether the first bounding box (surrounding at least one source operand) and the second bounding box overlap wherein a dependency is detected ...”

Examiner argues that “in order to determine destination bounding boxes source bounding boxes must somehow be generated by the hardware component.” Applicant respectfully disagrees. While it may be contemplated that there be source operands in order to have destination operands, it is not inherent that a bounding box be generated about these source operand in order to determine a destination bounding box, as contended by the Examiner.

Further referring to Examiner’s arguments starting on page 7 of the final Office Action, Examiner states “each window workspace area on the screen is deciphered to be represented in X, Y, Z coordinate space. And, Dye suggest that each object or bounding box is represented in X, Y, Z space. Hence, a bounding box is [intrinsically] surrounding each window workspace area *on the screen* where triangles representing the [sic] each object or bounding box *will be rendered.*” In other words, the bounding box surrounds triangles (e.g., sets of pixels) where the triangles *will be drawn*. Thus, the bounding box of Dye, according to Examiner’s own argument, only refers to a destination bounding box as defined by the Applicant both in the specification and claim 1.

Additionally, the specification of Dye inherently describes comparison of similar types of bounding boxes because each bounding box is described in the same space. Thus, according to the Examiner’s arguments, Dye only contemplates comparison of destination bounding boxes with other destination bounding boxes.

Even if one were to assume that source bounding boxes must somehow be generated by hardware components in order to determine destination bounding boxes (which Applicant traverses), there is no discussion, suggestion, or

motivation in *Dye* to determine whether a source bounding box overlaps with a destination bounding box.

In fact, *Dye* never discloses comparison of source bounding boxes, nor even contemplates source bounding boxes. Further, it would not have been obvious to one skilled in the art to contemplate the use of source bounding boxes in the context of *Dye*. As such claim 1 is not obvious in view of *Dye*.

With respect to *Sambonsugi*, the Examiner refers to col. 66 and col. 67 for support that *Sambonsugi* renders claim 1 obvious. Applicant notes that *Sambonsugi* only contains 54 columns. Therefore, Applicant is unsure where the Examiner is referring to for this support.

Furthermore, the Examiner states that *Sambonsugi* discloses “a method for determining dependencies between a first graphic primitive and a second graphics primitive....comprising calculating a first bounding box for the first graphics primitive; calculating a second bounding box for the second graphics primitive; and determining whether the first bounding box and the second bounding box overlap...” However, the Examiner does not take into consideration any discussion as to source or destination operands with respect to *Sambonsugi*. As such, *Sambonsugi* does not render obvious claim 1.

Regarding claim 11, the claim recites “comparing a set of destination pixel locations where the first graphics primitive will draw its graphics upon completion with at least one set of source pixel locations read by the second graphics primitive in order to complete its drawing operation.” As discussed above with respect to claim 1, *Dye* does not disclose comparison of source pixel locations (e.g., source operand) with destination pixel locations (e.g., destination operand).

The Examiner argues that “the source operand characterizes the Z memory or Z values of X, Y area of box 1 or 2 as implied to [sic] in the depiction at col. 67, lines 15-23.” This reference in *Dye* states “memory is allocated for the Z values for the X, Y area...” if an intersection occurs. However if no intersection occurs, “memory is not allocated for Z values” (col. 67, lines 13-14). Thus, the use of Z values and Z memory are not even contemplated until an intersection is already detected. It is nonsensical that a memory that is not considered until an intersection is already detected be used to determine if there is an intersection (i.e., dependency). As such, the source operand does not characterize the Z memory or Z values as contemplated by the Examiner. Additionally as discussed above, a source operand is defined as a set of pixel locations that each primitive *reads* in order to complete its drawing operation. Therefore, claim 11 is not obvious in view of *Dye*.

Claims 12 and 13 depend from claim 11. As such, claims 12 and 13 are allowable for the same reasons as claim 11.

In paragraph 3 (page 9) of the final Office Action, the Examiner rejected claims 4, 8-9, and 29 under 5 USC §103 as being obvious over *Dye* (U.S. Patent No. 6,108,014) in view of *Battle* (U.S. Patent No. 6,417,848). Applicant respectfully traverses.

With respect to claim 4, *Battle* does not overcome the deficiencies of *Dye* with regards to claim 1. That is, *Battle* does not contemplate having “the first bounding box surrounding at least one source operand... wherein the at least one source operand is a set of pixel locations that each primitive reads in order to complete its drawing operation” and “determining whether the first bounding box (surrounding the at least one source operand) and the second bounding box overlap...” As such, claim 4 is not obvious over the prior art.

Claim 8 recites in part determining whether a “*write after write* dependency” exists between a first set of destination pixels (or corresponding bounding box) and a second set of destination pixels (or corresponding bounding box). The Examiner contends that *Battle* teaches determining a write after write dependency. However, the section referred to by the Examiner merely states that a “clusterizer should create clusters which are free from processing hazards such as write-after-write hazards.” There is no discussion of how a write-after-write hazard is determined. The Examiner is respectfully requested to point out how this determination is made in *Battle*. As such, claim 8 is not obvious over *Dye* in view of *Battle*.

Claim 9 depends from claim 8, and is not obvious for the same reasons.

Claim 29 recites the limitations of claims 1 and 7. Claim 7 is objected to as being dependent from a rejected base claim (i.e., claim 1), but would be allowable if rewritten with limitations of the base claim. As such, the rejection with regard to claim 29 is moot, and claim 29 is allowable.

#### Rejection under 35 USC §102(e)

In paragraph 4 of the final Office Action, the Examiner rejected claim 14 under 35 USC §102(e) as being anticipated by *Dye*. Specifically, the Examiner contends *Dye* comprises a destination reservation station, a source reservation station, and a first comparator. Applicant traverses.

Claim 14 recites “a source reservation station for storing a source bounding box location... the source bounding box surrounding at least one set of pixel locations that each primitive reads in order to complete its drawing operation.” As previously discussed, *Dye*, according to the Examiner’s

arguments, only suggests destination bounding boxes (i.e., where the primitive will draw its graphics) and the comparison of the same. There is no mention of sourcing bounding boxes or a source reservation station for storing the sourcing bounding box location, nor is it inherent that *Dye* would have a source reservation station for storing the source bounding box location. Therefore, claim 14 is not anticipated by *Dye*.

#### Allowable Subject Matter

In paragraph 5 of the final Office Action, claims 18-27 are found to be allowable over the prior art.

Further in paragraph 6, claims 7 and 15-17 are objected to be as being dependent upon rejected base claims. Claim 7 depends from claim 1 which Applicant contents is allowable. Claims 15-17 depend from claim 14 which Applicant believes is allowable. Further, claim 29 incorporates the limitations of claim 7 into claim 1, and is thus in condition for allowance.

Conclusion

Based on the foregoing amendments to the claims and the above remarks, Applicant believes that the objections and rejections in the final Office Action of August 27, 2004 are fully overcome, and that the application is in condition for allowance. If the Examiner has questions regarding the case, the Examiner is invited to contact Applicant's undersigned representative.

Respectfully submitted,

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